DETAILED ACTION

Summary

1.   Claims 1, 7, 8, 14, 18, 19, 24-27 30, 32-34, 37, 40 and 44 have been amended.

2.   No claims have been cancelled.

3.   No new claims have been added.

4.   Claims 1-44 are allowed.

EXAMINER'S AMENDMENT

5.   An examiner's amendment to the record appears below. Should the changes
and/or additions be unacceptable to applicant, an amendment may be filed as provided by
37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no
later than the payment of the issue fee.

        Authorization for this examiner's amendment was given in a telephone interview
with Gregory A. Hunt on September 16, 2008.

Claim 27 has been amended as follows:

27. (Currently Amended) A method for hitless software upgrade or downgrade in a
switched network element, the method comprising:

    (a) operating a first switch management module in the switched network element in a
        master mode, wherein operating in the master mode includes forwarding packets
        and participating in network protocols using a first software version;

(b) operating a second switch management module in a slave mode, wherein operating in the slave mode includes monitoring the operational state of the first switch management module using the first software version;

(c) storing a second software version in memory;

(d) rebooting the second switch management module using the second software version;

(e) distributing protocol state and packet forwarding information from the first switch management module executing the first software version to the second switch management module executing the second software version using canonical messages, <u>wherein the canonical message format is a message format that corresponds to message type and length rules stored by the master and slave switch management modules</u>; and

(f) at the second switch management module, switching from operating in the slave mode to the master mode, wherein operating in the master mode includes starting packet forwarding and network protocol operations using the protocol state and packet forwarding information received from the first switch management module, thereby starting from the last correct network protocol operational state of the first switch management module.

Reasons for Allowance

6.   The following is an examiner's statement of reasons for allowance:

For independent claims 1 and 7, the prior art fails to show alone or in combination a method for hitless switch management module failover, the method comprising at a first switch management module in a switch, operating in a master mode and a second switch management module in the switch operates in a slave mode "wherein operating in a slave mode includes continuously monitoring the operational state of the first switch management module, receiving the packet forwarding and protocol state information from the first switch management module, and in response to detecting failure of the first switch management module, switching to the master mode and resuming network protocol operation from a state in which the first switch management module last operated correctly by injecting the received packet forwarding and protocol state information into one or more subsystems of the second switch management module associated with performing packet forwarding and participating in network protocols." Dependent claims 2-6 and 13 are allowable because they depend on the allowed claims.

For independent claims 19, 24-26, 32-34, and 44, the prior art fails to show alone or in combination a method for hitless software upgrade or downgrade in a switched network element, the method comprising a first switch management module in a switch, operating in a master mode and a second switch management module in the switch operates in a slave mode "wherein operating in a slave mode includes continuously monitoring the operational state of the first switch management module, receiving the packet forwarding and protocol state information from the first switch management module, and in response to detecting failure of the first switch management module, switching to the master mode and resuming network protocol operation from a state in which the first switch management module last operated correctly by injecting the

received packet forwarding and protocol state information into one or more subsystems
of the second switch management module associated with performing packet forwarding
and participating in network protocols." Dependent claims 20-23 and 35-36 are allowable
because they depend on the allowed claims.

 For independent claims 8, 27, and 37, the prior art fails to show alone or in
combination a method for hitless switch management module failover, the method
comprising at a first switch management module in a switch, operating in a master mode
that communicates packet forwarding and protocol state information to a second switch
management module operating in a slave mode using a canonical message, "wherein the
canonical message format is a message format that corresponds to a message type and
length rules stored by the master and slave switch management modules." Dependent
claims 9-12, 28-29, and 38-39 are allowable because they depend on the allowed claims.

 For independent claims 14, 18, and 40, the prior art fails to show alone or in
combination a method for hitless switch management module failover, the method
comprising at a first switch management module in a switch, operating in a master mode
that communicates packet forwarding and protocol state information to a second switch
management module operating in a slave mode using bracketing to group related
messages together, "wherein using bracketing to group related messages together
includes grouping all messages received between an open bracket and a closed bracket as
part of a single transaction." Dependent claims 15-17, and 41-43 are allowable because
they depend on the allowed claims.

 For independent claims 30, the prior art fails to show alone or in combination a
method for hitless software upgrade or downgrade in a switched network element, the

method comprising at a first switch management module in a switch, operating in a

master mode that communicates packet forwarding and protocol state information to a

second switch management module operating in a slave mode using bracketing to group

related messages together, "wherein using bracketing to group related messages together

includes grouping all messages received between an open bracket and a closed bracket as

part of a single transaction." Dependent claim 31 are allowable because they depend on

the allowed claim.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to BEN H. LIU whose telephone number is (571)270-3118.

The examiner can normally be reached on 9:00AM to 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ricky Ngo can be reached on (571)272-3139. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
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